



● Dr. Radu Baston ●

Lateral Single Tooth Replacement With Removable Implant-born Metal Frameless Composite Crowns

Abstract from chapter 12:

12. The Metal Frameless Removable Composite Crown

The Original Method:

A Removable (Screwed in)

Composite Crown is Laboratory cured directly on an abutment for CEMENTED (!) superstructures.

Metal casting is unnecessary!

2000: THE FIRST REMOVABLE (METAL) FRAMELESS COMPOSITE CROWN REPLACING MOLAR 47 (ARTGLASS BUILT-UP ON A FRIALIT-2 IMPLANT)



After the immediate implantation



AFTER 3 MONTHS: a completely GAPLESS (o) one-piece unit (composite crown + abutment for cemented superstructures) is screwed in directly into the implant. The initial periapical radiolucency (o) has almost healed.



CONTINUATION

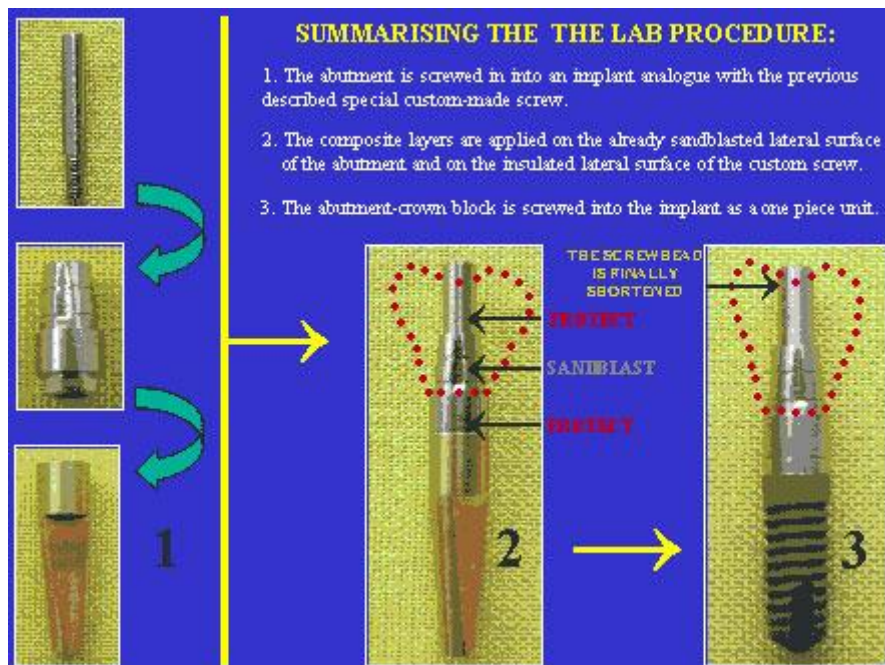
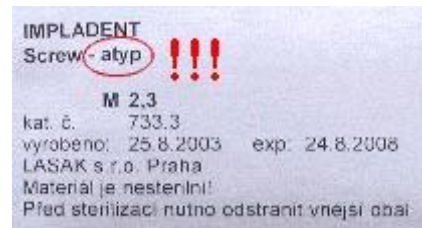
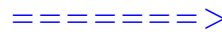




Pictures of the same crown 2000



The "IMPLADENT" Company from Prague-Czech Republic came up upon my request with a customized screw model



Treatment plan

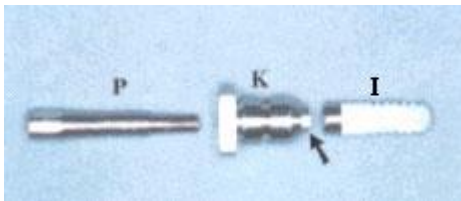
1. Root planning of all remaining teeth.
2. Three "IMPLADENT" Implants in the right upper quadrant. Crestal (alveolar) approach sinus-lift for the distal implant.
3. Metallo-ceramic crown on tooth 37. (♦)

The office and lab procedure is described further on sup by sup.

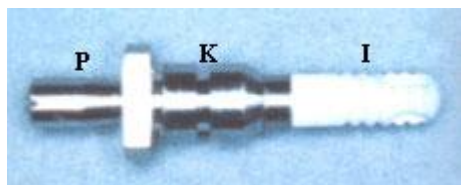
4. Implant-borne temporary acrylic bridge in area 14, 15, 16. (IMPLADENT LOA BRIDGE)
5. Implant-borne cemented metallo-ceramic bridge in area 14, 15, 16. Two removable composite crowns without metal frame in area 36,46.



The "IMPLADENT" transfer copings feature an antirotational internal octogone



(P) The transfer coping fastening screw



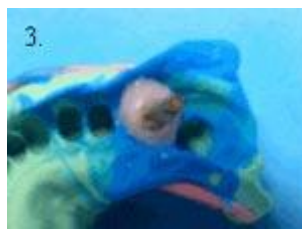
(K) Transfer coping with corresponding external octogone



[Open-trey Standard Impression](#)



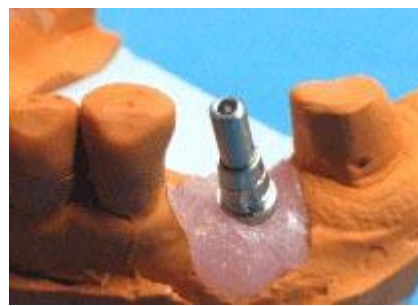
Mucosal Aspect of the Impression and Pouring of the Master Cast



Master Cast



After removing the impression tray...



...I screwed into the implant analogue an abutment for CEMENTED superstructures using the custom-made long-headed screw.

Preparing the abutment for the lab curing procedure

The lateral aspect of the abutment and its shoulder were sandblasted (→) while the transgingival ring (○) and the occlusal screw opening (←) have been protected. The abutment is further on steamed....

...a metal bond is applied on the sandblasted surfaces (→)....

Continued



Opaque is applied on the lateral surface of the abutment



These two first layers are pre-cured...



...and cured!

Continued



A thin layer of separator is applied on the lateral surface of the custom screw.





The following composite layers are applied as usual, pre-cured and cured.

FROM NOW ON THE SUCCESSIVE COMPOSITE LAYERS ARE APPLIED SIMULTANEOUSLY ON THE AREA CORRESPONDING TO THE LATERAL SURFACE OF THE ABUTMENT AND ON THE INSULATED SCREW HEAD.



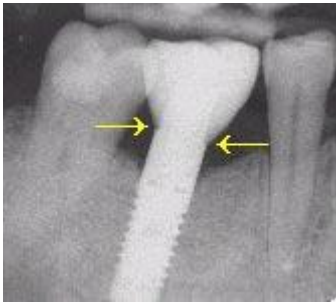
The crown is polished



The crown-abutment junction line has no gap at all (o) because this type of crown does not have to be cemented!



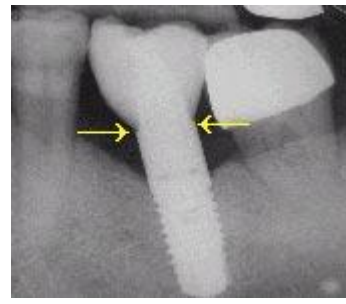
The marginal fit of the crown...



46



36



36 37



...is far superior to any other implant-borne type of crown, no matter if cemented or removable. The crown is screwed in with a 35 N cm torque wrench.

The occlusal surface has moderate cusps..

The penimplantar space is kept open for a proxabrush.

The screw head has no occlusal contacts.

